



# Developing the Abilities of Music Students: A Blended Teaching Approach Based on Inquiry-based and Task-based Learning

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## *Abstract*

This study explores integrating inquiry-based learning (IBL) and task-based learning (TBL) in music education to enhance student engagement, creativity, and critical thinking. The study emphasizes the complementary roles of IBL and TBL in promoting active learning and real-world application by looking at their respective theoretical foundations. The blended approach is implemented through structured musical tasks, encouraging students to explore, create, and perform. Results indicate that combining these methods improves students' musical skills and develops their problem-solving abilities and independent learning, making it a valuable pedagogical strategy in music education.

*Keywords:* inquiry-based learning (IBL), task-based learning (TBL), music education, teaching approach.

## 1. Introduction

The evolution of music education and pedagogy has long been unquestioned and nearly taken for granted by contemporary educators. However, this superficial perception masks deep divisions between multiple, complex, potentially conflicting educational philosophies in music teaching and learning. Whether viewed from the academic roots of traditional music education or the contemporary emphasis on interdisciplinary collaboration and creative development, undergraduate music student preparation goals have been in a tug-of-war between these intertwined and often opposing educational philosophies (Bailey, 2022). This conceptual collision has prompted educators to rethink and reorganize their approach to music education to find a balance between tradition and modernity. Remixing two or more single learning methods to form an entirely new learning approach has become a powerful tool that has proven effective in several studies (Yao et al., 2024; Yusof et al., 2012).

Inquiry-Based Learning (IBL) is a highly respected educational approach in recent years that emphasizes student initiative in the learning process and encourages them to explore, ask questions, and think critically about the learning process. This approach promotes more profound understanding and independent learning by engaging students personally in constructing knowledge (Pedaste et al., 2015). Task-Based Learning (TBL) has achieved significant results in language education, especially in teaching English as a Second Language (ESL). TBL effectively improves students' language proficiency through the design of

communicative-based tasks, especially their ability to use them in real communication situations (González-Lloret, 2015). However, despite the widespread recognition of TBL in language education, its use in music education is relatively rare. Most studies have used TBL as an adjunct to language learning rather than as a core approach to music teaching, leaving its potential in the field of music education untapped (Ruso, 1999; González-Lloret, 2015).

Nevertheless, some studies have tentatively explored the intersection between music and language education. For example, Rodríguez-Peñarroja's (2022) study showed that vocabulary learning through musical activities (e.g., listening to a song and watching a movie) significantly improved students' recall. These findings suggest that music stimulates students' interest in learning and enhances language learning through multisensory experiences. This hints at the potential facilitating role of music in language learning, especially in contexts that incorporate language learning, where musical activities can improve students' vocabulary acquisition and comprehension. However, despite these studies demonstrating the potential for the use of music in language education, the direct application of TBL to music education, particularly as a primary means of developing musical skills and competencies, remains an under-explored area. Existing research has focused primarily on the role of music as an aid to language learning and has failed to delve into its independent application in music education (McCarthy, 2009; Torres Vila, 2021). This research gap provides a significant opportunity to develop blended teaching methods that combine IBL and TBL. Educators may be able to design more effective music education strategies that both develop students' musical skills and promote their independent learning and critical thinking skills.

Moreover, integrating IBL and TBL is wider than music education. The integration of Project-Based Learning (PBL) in the teaching of English for Specialized Purposes (ESP) was demonstrated in Buzarna-Tihenea and Nadrag's (2023) study, which significantly enhanced students' learning by encouraging collaborative and active participation in learning. González-Lloret (2015) further emphasized the advantages of TBL in language education, arguing that this approach, through structured task sequences, not only effectively facilitates students' language learning but also offers broad prospects for its application in other disciplines. In conjunction with these studies, the potential of TBL in music curricula has received theoretical support (González-Lloret, 2015; Buzarna-Tihenea & Nadrag, 2023), suggesting that through a task-oriented approach, music education can further deepen students' understanding and skill development, leading to innovations in interdisciplinary teaching and learning. Therefore, this study aims to explore the impact of a blended teaching methodology based on IBL and TBL on the development of music students' competencies through the development of a blended teaching methodology.

## 2. Inquiry-Based Learning (IBL)

Inquiry-Based Learning (IBL), as an active learning process, aims to master scientific knowledge and research methods through students' independent exploration of problems. This mode of learning stems from the imitation of scientific research methods, and by allowing students to experience, understand, and apply scientific research methods firsthand, they can master scientific research skills. Paste et al. (2015) believe that IBL is a learning process and goal. On the one hand, IBL encourages students to ask questions, gather information, and construct knowledge as a learning process through hands-on activities and critical thinking. On the other hand, IBL aims to develop students' problem-solving, critical analysis, and independent learning skills, which are valuable for lifelong learning as a learning goal. IBL is regarded as an essential way to enhance the overall quality of students and is one of the keys to building lifelong learning skills in today's education.

IBL focuses on self-directed exploration and asking questions. As defined by the National Research Council (1996), inquiry is a multifaceted activity that includes observing, asking

questions, reviewing information, developing a research plan, evaluating conclusions based on experimental evidence, using tools to collect and analyze data, coming up with answers, interpreting and making predictions, and communicating results. The inquiry process requires identifying hypotheses, thinking critically and logically, and considering alternative explanations. Qablan argues (2024) that IBL is a nontraditional approach that incorporates active student participation by allowing students to ask questions and bring real-life experiences. This approach guides students' thought processes through questioning and helping them with "how to think" rather than "what to think." IBL is not only a process of acquiring knowledge but also a process in which students master scientific research methods through exploration (Wu et al., 2015). Scientific inquiry emphasizes acquiring empirical information through experimentation and observation and developing scientific explanations and conclusions based on this information. Hastut et al. (2019) and Purwasi (2019) found that students learn scientific knowledge, acquire scientific thinking and problem-solving skills in this process, and develop independent thinking to enhance their deep understanding of what they have learned.

IBL can be categorized into three types: scientific inquiry, practical inquiry, and social inquiry (Suárez et al., 2018). Scientific inquiry is mainly concerned with the understanding of scientific knowledge and principles, emphasizing the acquisition of data through experimentation and observation, such as measuring the rolling speed of an object on different slopes to understand the principles of mechanics in physics class; practical inquiry focuses on practical problem solving (action plan), such as the management of environmental pollution and the classification and recycling of garbage, etc.; social inquiry involves issues in social sciences and humanities, and pays more attention to reflections and value judgments. For example, what can be learned from the Second World War? Although these three types of inquiry differ in objectives and methods, they all emphasize students' ability to explore and ask questions independently. Different types of inquiry learning can meet the diverse learning needs of students and develop their comprehensive abilities in different fields.

The history of IBL can be traced back to Dewey's criticism in 1909 that traditional science education placed too much emphasis on accumulating information and neglected the importance of science as a way of thinking and an attitude (Kolstø, 2018). Between the 1950s and the 1970s, the rationale for IBL was gradually recognized, and educator Schwab proposed learning through experimentation and observation as specific methods and emphasized students' initiative and autonomy in the inquiry process (Doll Jr., 1972). Curriculum reforms during this period focused on developing students' inquiry skills and understanding science as a dynamic, continually verifying and revising process. Dewey's and Schwab's theories laid the foundation for modern IBL and influenced subsequent educational practices.

IBL is characterized by five main aspects: asking questions, collecting data, developing explanations, evaluating results, and testing results (National et al., 2000). In the question-posing stage, students need to explore science-based questions that are related to scientific concepts and can be answered through empirical investigations. In the data collection phase, students obtain empirical information through observation, measurement, and experimentation and develop scientific explanations based on this information. In the evaluation and testing of results stage, students must compare their explanations with other possible explanations and further consolidate the results of their investigations through communication and validation. Each feature emphasizes students' active participation and independent thinking in the learning process, which makes IBL effective in enhancing students' learning outcomes and scientific literacy.

The implementation of IBL can be either full or partial inquiry, open inquiry, or guided inquiry. Complete inquiry learning encompasses all five characteristics of inquiry, while partial inquiry may need to include some of these characteristics. According to Zion and Mendelovici (2012), open inquiry emphasizes student autonomy, while guided inquiry requires more support and guidance from the teacher. Depending on students' abilities and learning goals, appropriate

inquiry methods can be chosen to maximize the effects of IBL. For example, for lower-grade students, guided inquiry can be used to gradually develop their inquiry skills, while for upper-grade students, open inquiry can allow them to explore and research more independently.

### 3. Task-Based Learning (TBL)

Task-Based Learning (TBL) is a student-centered teaching method that promotes student learning by completing specific tasks. According to Sholeh et al. (2020), this method improves students' general competence by combining theoretical knowledge with practical applications and encouraging them to use what they have learned in real-world situations. TBL originated in the 1980s when Bangalore first introduced Task-based teaching learning (TBLT) in India and has evolved and improved over the following decades, gradually becoming an essential pedagogical theory and practice method in education (Suntharesan, 2014). TBLT, as a pedagogical method, occupies a prominent position in linguistic research. However, it is noteworthy that the application of TBL in linguistics has gradually been diluted in favor of gradual adaptation and integration into research in several disciplines. The core concept of TBL is to let students learn through practical exercises and specific tasks to enhance the initiative and effectiveness of learning.

The core concept of TBL is Learning by Doing. In this teaching mode, students take the initiative to construct knowledge systems and develop thinking and practical skills by participating in various tasks, such as projects, problem-solving, and group discussions. For example, students can enhance language application and communicative skills in language learning through tasks such as role-playing, simulated dialogues, and practical communication (Shehadeh, 2005). Students participate in various tasks, such as role-playing, simulated dialogues, and practical communication, to enhance their language application and communicative skills in language learning. Students can deepen their understanding of music theory and practice in music education by engaging in tasks such as music composition, performance, and analysis (Moore & Lorenzo, 2015). Students' interest in learning is stimulated, and they can consolidate and apply what they have learned practically, thus achieving twice the result with half the effort.

The research on TBL has achieved remarkable results in recent years. Bangalore proposed the task-based teaching method in the 1980s and summarized a set of teaching models in practice, emphasizing the students' subjective position and the teacher's supporting role (Lochana & Deb, 2006). Subsequently, scholars such as Skehan, Prabhu, and Willis further developed this theory, and Skehan (1998) in *A cognitive approach to language learning*. Oxford University Press explains that task-based teaching should emphasize the "meaning-oriented" approach. Skehan (1998) in *A Cognitive Approach to Language Learning*, Oxford University Press, explains that task-based teaching should emphasize "meaning-oriented" learning activities, in which students not only pay attention to the form of the language but also focus on the function and meaning of the language in completing tasks. Willis (1996) proposed three stages of task-based teaching: pre-task, task, and post-task, and these studies laid a solid foundation for the theory and practice of TBL. The research and practice of these scholars have provided theoretical support for TBL and specific guidance for actual teaching and learning, so TBL has been widely used worldwide.

Other scholars' research on and application of TBL is also emerging. Researchers have explored the implementation strategies and effects of TBL in different disciplines and teaching contexts. For example, Lee (2004) proposed the concept of communication tasks in English language teaching, emphasizing the purposeful, functional, and situational nature of tasks and designing tasks according to specific teaching needs. Ellis (2006) believed that group work is a core component of TBL because it provides meaningful communication and language use opportunities. Tasks are designed to encourage students to work cooperatively in groups to

accomplish common goals or problem-solving activities and are more meaningful and motivating for students. Chen (2018) found that TBL also promotes the development of students' thinking and overall quality of life because students must use critical, creative, and expressive thinking skills in completing tasks. These studies show that TBL is adaptable and practical in different cultural and educational contexts and can effectively enhance teaching and learning.

Implementing TBL requires teachers to invest much effort in task design, organization, and guidance. Teachers must design challenging and practical tasks according to students' abilities and interests and provide the necessary support and feedback during the task implementation process. Teachers also need to pay attention to the difficulty and complexity of the tasks to ensure that students gain a sense of achievement and self-efficacy in completing the tasks.

Although TBL has many advantages in teaching practice, there are some challenges and problems. The design and implementation of tasks require a lot of time and resources, and teachers' professionalism and instructional ability also significantly impact teaching effectiveness (Sholeh, 2020). Balancing the challenging nature of tasks with students' receptivity and conducting practical assessments in TBL are also issues that need to be further explored (Zhytska, 2014). In addition, Shukurova (2024) argues that ensuring all students are engaged may be difficult because students may have different understandings of the task, leading to uneven engagement and learning outcomes within the same classroom. These researchers suggest that the theory and practice of TBL can be continually refined through ongoing teacher training and pedagogical research to provide students with more affluent and more effective learning experiences. Addressing these issues will require a concerted effort by educational institutions, teachers, and researchers to explore more scientific and efficient teaching methods.

#### 4. The relationship between inquiry-based and TBL

IBL is rooted in constructivist theory. Proposed by scholars such as Piaget and Cook (1952) and Vygotsky and Cole (1978), constructivism is a theory of knowledge and learning that emphasizes the learner's initiative and sees learning as a process in which the learner generates meanings and constructs understandings based on prior knowledge and experience, which is often accomplished in the context of social and cultural interactions. IBL emphasizes the development of critical thinking and creativity through exploratory activities in authentic contexts that allow students to solve real-world problems. Constructivist theory also influences TBL, but its theoretical underpinnings are more focused on linguistics and applied linguistics, especially Krashen's (1985) input assumptions and Long's (1985) output assumptions. TBL initially emphasized the practical use of language. Through the design and completion of tasks, students are allowed to communicate and cooperate in authentic contexts to improve their language use and practical problem-solving abilities.

Despite their unique focus on theoretical underpinnings, there is a strong link and complementary relationship between IBL and TBL. Both are based on constructivism and emphasize students' active participation and self-directed learning. In addition, both emphasize learning in authentic contexts, with IBL stimulating students' interest in learning through questions and the research process, while TBL enables students to apply knowledge in specific contexts through the actual practice and completion of tasks (Vaquero & Diaz, 2023; Walker et al., 2022). Inquiry-based and TBL focus on developing higher-order thinking skills, such as critical thinking, creative problem-solving, and self-directed learning (Qamariyah et al., 2021).

The implementation method of IBL is usually divided into several main stages: asking questions, investigating, analyzing data, and drawing conclusions. The implementation method of TBL focuses more on the practical and task-completion process. IBL and TBL have many

complementary implementation methods. Combining the two can lead to a more comprehensive teaching strategy. For example, teachers can design task-based activities in IBL to help students verify their hypotheses and conclusions. This can enhance students' understanding of knowledge and improve their practical skills.

Similarly, in TBL, inquiry-based activities can be introduced to help students gain a deeper understanding of the background knowledge of the task and develop their spirit of inquiry and creativity. For example, when conducting a science experiment task, students can formulate experimental questions and hypotheses through IBL and then complete experimental operations and data analysis through TBL. This integration enables students to apply what they have learned in practical operations and enhance their cognitive and practical abilities in the inquiry process.

### 5. Design principles for the blended teaching approach

What is unquestionable is the close alignment of explicit pedagogical objectives with tasks. While IBL emphasizes that students construct knowledge by asking questions, conducting experiments, and reflecting, TBL requires students to complete real-world tasks or projects. Therefore, when designing teaching methods, teachers must combine course objectives with specific tasks so that students can effectively achieve learning objectives while completing tasks. Each task should have clear teaching objectives to ensure consistency with the curriculum standards and students' ability levels. Teachers need to design tasks according to students' characteristics and needs to ensure their effectiveness and applicability (Anderson & International Institute for Educational Planning, 1991).

Furthermore, teachers must design a step-by-step learning process to progressively enable students to move deeper into TBL based on IBL. However, advancing too fast may lead to problems of insufficient understanding, lack of deep learning, or reduced motivation of students. When students have not fully grasped and internalized the required knowledge and skills at the IBL stage, entering TBL too early may lead to cognitive overload, making them feel overwhelmed when facing actual tasks (Oxford, 2006). Therefore, teachers should provide sufficient support at the beginning and feedback at the end to help students maximize their learning outcomes in each learning stage.

Blended learning also emphasizes the balance between cooperative and independent learning, which should complement each other. Teachers should encourage students to work together in groups to solve problems while emphasizing individual students' self-directed learning skills. Sawyer (2005) emphasizes that deep learning requires students to connect new concepts to prior knowledge and to consolidate their understanding through reflection and evaluation. Collaborative learning helps students gain diverse perspectives and solutions in group discussions, while self-directed learning prompts independent thinking and innovation.

### 6. The innovative nature of the blended teaching approach

Students who learn songs by rote tend to be technically proficient but often need to perform better in musical expression and creativity than those who learn by understanding musical concepts and performance techniques (Haston, 2007). Achieving a proper understanding of music takes much work and requires talent. However, Iglesias and Tejada (2024) argue that students can gradually develop this understanding through an IBL approach and by combining theoretical knowledge with actual performance in ongoing practice, which enhances their musical expression and creativity. This is mainly because students are encouraged to actively explore different elements of music, such as rhythm, melody, and harmony. Meanwhile, TBL helps students consolidate and deepen these understandings in practical applications by designing

specific musical projects, such as composing a piece of music or a performance task (Xie, 2017). Partti and Westerlund (2013) also mention that students need to collaborate with their classmates and divide their work to complete complex music creation tasks accomplishing these practical tasks, which enables them to learn about music while also learning how to work effectively in a team. This approach enables students to apply what they have learned in real-life situations and enhances their creativity and expressive skills in music composition and performance.

The innovation of blended learning in the music classroom is also reflected in how teaching and learning are assessed. Traditional music assessment tends to focus on students' accurate performance of sheet music or their mastery of music theory, and this type of assessment focuses on students' performance at the technical level. However, this mode of assessment may need to pay more attention to students' development in musical expression and creativity. McPherson (1995) stated that music assessment should take a more comprehensive account of students' performance in actual performance, especially in expression, creativity, and emotional engagement. Based on McPherson's view, assessment for blended learning is called upon to reflect students' learning progress and overall competency development more thoroughly. For example, in a music composition program, teachers can assess students' creative thinking and musical comprehension by observing how they incorporate different musical elements (e.g., melody, rhythm, harmony) into their compositions. The assessment can also include students' performance in group work, focusing on how they communicate and collaborate with other members, especially their coordination skills in co-composing and performing.

## 7. The teaching step of the blended teaching approach

### *7.1 Step 1: Defining instructional objectives and designing curriculum content*

Identifying instructional objectives is the first task when designing a music course. This step is crucial and aims to ensure that students are equipped with the necessary musical skills and theoretical knowledge at the end of the course. Nwankwere and Opara (2016) state that teachers should set clear learning objectives based on the needs of the students in TBL environments to ensure that the content is relevant and practical. Paste et al. (2015) also emphasized that curriculum design should focus on combining theory and practice so that students can apply the theoretical knowledge they have learned to actual music composition and performance. Therefore, in practical teaching, teachers' objectives should consider the student's current level and future learning needs. These objectives should cover basic music theory, such as the mastery of harmony, rhythm, and melodic structure, and at the same time, enhance students' abilities in composition, performance, and music analysis. The setting of objectives should also follow the principle of progressivity, gradually guiding students to transition from mastering introductory knowledge to applying complex skills, ensuring that they build up their self-confidence as they continue to improve, and ultimately realizing the development of comprehensive music literacy. Teachers should also ensure the objectives are challenging and achievable to motivate students and promote deeper learning.

### *7.2 Step 2: Introducing IBL activities*

While introducing IBL activities, teachers should guide and support students in exploring structured, guided, or open-ended questions to gradually develop their critical thinking and problem-solving skills (Costes-Onishi & Kwek, 2023). For example, a teacher may pose a challenging question such as "How can the emotional expression of a musical piece be affected by changing the harmonic structure?" This question can stimulate deeper thinking and exploration among students. After students discuss and explore in groups, the teacher can help them

summarize the essential findings and apply these theories to practice, such as verifying their theoretical speculations through improvisation or performance. Paste et al. (2015) mention that this combination of exploration and practice helps students to internalize their knowledge while developing their creativity and practical skills. Students experience the music creation process through independent learning, while teacher guidance ensures direction and depth of learning.

### *7.3 Step 3: Implementation of TBL*

The core responsibility of the teacher is to design and organize challenging musical tasks to help students translate their theoretical knowledge into practical skills. According to Nunan (2004), TBL prompts students to deepen their understanding and skills through application by setting specific tasks in authentic situations. For example, teachers may assign compositional tasks that require students to create a piece of music using a specific harmonic progression or to rearrange a musical fragment in an orchestra performance. Tasks should gradually increase in complexity according to students' current abilities to help them challenge themselves in practice and improve their musical understanding and compositional skills. At the same time, teachers need to take on the role of facilitator, supporting students through scaffolding, which Richards and Schmidt (2002) have identified as particularly critical in TBL, to help students succeed through challenge, which helps students to succeed in challenging situations.

### *7.4 Step 4: Presentation of results and reflection*

Reflection is integral to the learning process and can help students consolidate their knowledge in practical applications (Kolb, 2014). Johnson and Brown (2011) further emphasize that reflective teaching should include discussion, action, and reflection. These processes help students make meaningful connections in their music learning and enhance their critical thinking skills. The forms of outcome presentations can be diverse, including classroom performances, recordings of works, and sheet music presentations, where students can present a comprehensive picture of what they have learned in the course. At the same time, teachers should actively engage students in self-reflection and peer feedback, which will help students recognize their weaknesses and areas for improvement and motivate them to be more proactive in the next stage of their learning.

### *7.5 Step 5: Evaluation and adjustment*

According to Black and William (1998), formative assessment can provide students with timely feedback to help them make adjustments and improvements in the learning process. Teachers can comprehensively assess students' learning effectiveness in the music classroom by observing their performance, creative achievements, and active participation in discussions. Subsequently, teachers should adjust their teaching plans and strategies according to the assessment results to better meet students' individual learning needs. Adjustments should cover the optimization of teaching content and the improvement of teaching methods to ensure that each student can reach his/her full potential and achieve the best results in learning activities.

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